ENERGY STAR® Labeling Potential for Compact Refrigerators

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Market

Almost all compact refrigerators are imported. The percentage of imports is over 99% of the total units sold in the United States. Most compacts are from China and Japan. Nearly 75% of all refrigerator imports fall into the compact category of under 6.5 cubic feet. Most of these are also manual defrost. According to AHAM, in the year 2000, there were 2.41 million compact (under 6.5 cubic foot) refrigerators imported into the U.S. Of these, 52,000 were combination refrigerator/freezers and the other 2.36 million units were just refrigerators.

The import market is increasing dramatically. In 1996, imports of compact refrigerators and refrigerator/freezers totaled 1.3 million. The imports for the first half of 2001 alone were 1.3 million. So, the market has doubled in the last five years.

Compact refrigerators are currently marketed toward dormitory rooms and offices. Other targets are hotels, small homes, urban apartments, vacation houses, guesthouses, senior homes, military housing, and hospitals. Many compacts are also purchased as a cheap alternative for a basement refrigerator.

Energy Consumption and Potential Savings

The California Energy Commission (CEC) maintains a database of compact refrigerators. The database currently contains 219 refrigerator only compacts. Of these, only 41 are automatic defrost. Assuming expansion of the current 10% specification, 13 of these 41 would qualify for the ENERGY STAR label. All of these models are at least 13% more efficient than the federal standard, 12 of the models are at least 15% more efficient and 3 are at least 20% more efficient.

Of the 178 manual defrost refrigerator only models in the database, 23 are at least 10% more efficient and would therefore qualify for ENERGY STAR if the specification was expanded. Twelve models are at least 15% more efficient and four models are listed as at least 40% more efficient than the new federal standard. The standard for these compacts is around 350 kWh/year so the savings would be around 35 kWh/year or a little under $3.

There are 32 refrigerator/freezers in the CEC database. Only one is automatic defrost and 25 are partial automatic defrost (refrigerator is automatic defrost, but freezer is manual defrost). Eight of these models would qualify for a 10% more efficient ENERGY STAR level and four are at least 20% more efficient than the new federal standard.

Price

The price of compact refrigerators and refrigerator/freezers seems to range from about $120 to $420. Kenmore has some very small compacts ranging from $100 to $270. I could not find any price points for efficient models and I do not believe there is much of a price premium at this level.

The following chart shows the placement of all current compact refrigerators in terms of size and energy consumption per year. The trendlines show the average federal standard and the average 10% ENERGY STAR level for the models. Several models appear to be less efficient than the federal minimum standard since this chart includes both manual and automatic defrost models, but it should give a pretty general idea of what proportion of models would meet an ENERGY STAR specification and how much more efficient they are.